[To Mel Cohn]

U. of Wis., Genetics Dept.
Madison 6, Wis.

March 22, 1951.

Dear Cohn-

Thank you for your prompt and informative letter. It will take me some time to assimilate it properly, but in any case, I have very little to add/ to my previous note. I will be especially pleased to exchange mss. with you insofar as they have any bearing on the lactase and adaptation problems of mutual interest. A general paper I presehted at the Genetics Society meetings last Fall is included in "Genetics in the 20th Century" which will be published by MacMillan in a few weeks. Unfortunately, Stanier has my only ms. copy- but there are only some rather general remarks which are more than covered in our correppondence. May I suggest that you ask Monod to dig up the letters I had sent over the last few years for dome background into the development of our work in this field.

There is one specific point in your letter I would like to discuss with you: the utilization of homomorphous arabinosides by galactosidase. Mr. Snyder in Link's lab. just recently prepared a small quantity of o-nitrophenyl α-l-arabinoside to test just this point. My enzyme prep. has an interesting behavior on this compound. The 1/v versus 1/S plots with ONPG and ONPA cross so that at relatively ~~xxxxx~~ low concentrations, activity on ONPA seems to be negligible. The extrapolated V_{max} is however considerably higher for ONPA than for the galactoside. K_s (onpa) is about 4×10^{-3} M in M/50 sodium phosphate buffer pH 7.5.

There are several possible reasons for the discrepancy in our findings, but the easiest way to clear it up is for you to make some tests on our compound. Unfortunately, our supply of onpa is extremely limited, but I am enclosing what I hope may be enough to ~~xxxxxxxxxxx~~ make a preliminary comparison. The ONPA was prepared essentially by the Seidman-Link procedure for ONPG, The material has a mp. of 139-139.5, but rotation not yet checked. They are doing some work on the abnormal rotation of the tetraacetate, so that this sample is a substantial part of the available supply.

Your remarks on the behavior of thiogalactosides are extremely interesting: if you can spare a reasonably small quantity of any good one, I would appreciate the favor.

In conclusion, it seems to me that we have a sufficiently different outlook and working material that we can afford to continue with our established programs: any overlapping is likely to be more provocative than wasteful as the present instance may suggest.

On the same subject, Roberts and his group of biophysicists at the Carnegie Terrestrial Magnetism lab. in Washington were delving pretty deeply into lactase, but had to quit for war-work. They had some interesting material on adaptation in E. coli B, which proceeds faster in a Warburg setup than most strains.

Sincerely,

Joshua Lederberg